# Does religion still protect against risk of suicide? A longitudinal study of over one million people.

O'Reilly, D., & Rosato, M. (2013). *Does religion still protect against risk of suicide? A longitudinal study of over one million people.*. Paper presented at World Conference for Social Psychiatry, Lisbon, Portugal.

**Does religion still protect against risk of suicide? A longitudinal study of over one million people.**

**Authors**

Dermot O'Reilly[1]; Michael Rosato[2]

**Corresponding author:** Dermot O'Reilly

**Affiliation:**

1. Centre for Public Health: Queen's University Belfast
2. Bamford Centre; University of Ulster; Northern Ireland

**Key words**: Suicide; religion; longitudinal study

**Abstract**

**Background**

Durkheim's seminal historical study demonstrated that religious affiliation reduces suicide risk but it is unclear if this protective effect still persists in modern more secular societies.

**Aims**

To examine suicide risk according to religious affiliation and by inference to examine underlying mechanisms for suicide risk; If church attendance is important risk should be lowest for Catholics and highest for those with no religion; if religiosity is important then conservative Christians should fare best.

**Method**

A nine-year follow-up study of 1,106,104 people aged 16-74 at the 2001 Census, using Cox proportional hazards models adjusted for census-based cohort attributes.

**Results**

In fully adjusted models analysing 1,119 suicides, Catholics, Protestants and those professing no religion recorded similar risks. The risk associated with conservative Christians was lower than Catholics (HR=0.71: 95%CIs=0.52, 0.97).

**Conclusions**

The relationship between religious affiliation and suicide established by Durkheim in the 19th century may not pertain in societies where suicide rates are highest at younger ages. Risks are similar for those with and without a religious affiliation, and Catholics, who traditionally are characterised by higher levels of Church attendance, do not demonstrate lower risk of suicide. However, religious affiliation is a poor measure of religiosity, except for a small group of conservative Christians, though their lower risk may be attributable to factors other than religion such as lower risk behaviour and alcohol consumption.

**Declaration of interest:** none

**Background**

The relationship between religion and suicide was first established in Emile Durkheim's 19th Century seminal treatise[1]. This has since been corroborated in different countries[2, 3], most recently by Swiss researchers who used a 2000 Census based cohort study to show that such risk patterns still persisted, with risk highest for those with no religious affiliation, lowest for Catholics, and intermediate for Protestants[4]. Why religion should exhibit this protective effect is less clear: Durkheim attributed it to the sense of community that arises from active church membership, with attendance the most commonly cited attribute[7]. Others however, emphasise the moral and religious objections to suicide[5, 6], though Durkheim was at pains to rule this out as an explanation[1]. Perhaps though, a more pertinent question is why, given increasing societal secularisation[8,9], does the relationship between religion and suicide still seem to persist? Increasing secularisation is also evident in Switzerland where by the end of the 1990s non-practising Christians made up almost half the population[10] and a further 11% cited no affiliation[11]. This has led many social researchers, including some in Switzerland, to conclude that affiliation bears little correspondence to religious belief or practice but is more likely to reflect a diverse set of traditions or social convenience[12].

This study examines the relationship between religious affiliation and suicide risk in Northern Ireland, a country with high levels of professed religiosity and church attendance[13], and indirectly relates this to known differences in current levels of religiosity and attendance between religious groups. The decennial censuses in Northern Ireland confirm that high proportions of the population report a formal religious affiliation[20] and analysis of social surveys contemporaneous with the 2001 Census[21] show that church attendance is highest amongst Catholics - with 67% attending at least once a week compared to 29% for mainstream Protestants and 49% for the more conservative and evangelical Christians. On the other hand the conservative Christians are more likely to describe themselves as extremely or very religious and to express a deeper belief in the afterlife and a greater salience of religion in their life, with higher levels of conservatism towards sexual behaviours and the role of women in the family. Therefore, if, as suggested by Durkheim, religious affiliation offers protection against suicide

then risk should be highest amongst those with no religion. Similarly, if resilience accrued through the increased social capital associated with church attendance is the mediating factor, then suicide risk should correlate with the known patterns of church attendance in Northern Ireland ie lowest amongst Catholics, highest in those with no religious affiliation, with intermediate levels for mainstream Protestants and conservative Christians. However, if religiosity and its relevance in personal life are of greater consequence, then suicide risk should be more closely aligned with patterns of religiosity ie lowest for more conservative Christian faiths in comparison with Catholics and mainstream Protestants.

## Method

The Northern Ireland Mortality Study (NIMS) is a prospective record-linkage study derived from the 2001 Census returns for the whole enumerated population to which subsequently registered deaths to 2009 have been linked. Details of NIMS and linkage processes are described elsewhere[14]. These data were anonymised, held in a safe setting by the Northern Ireland Statistics and Research Agency (NISRA) and made available to the research team for this study. The use of the NIMS for research was approved by the Office for Research Ethics Committees Northern Ireland (ORECNI).

For this study a cohort of 1,106,146 adults aged between 16-74 and not living in an institutional setting were selected. All the cohort attributes were derived from the census record and included based on their known association with risk of suicide. In addition to the usual demographic factors of age (divided into 10-year age groups), sex and marital status, an indicator of living alone and four indicators of socio-economic status were included: household car access (two or more cars, one car, no car); education attainment levels (no formal qualifications, intermediate level, degree-level); occupational social class derived using the National Statistics Socio-economic Classification (NS-SEC)[15] - seven categories as per Table 1); and housing tenure (owner occupation, private renting and social renting). An additional indicator defining population density based on the NISRA classification of Settlements[16] was included to allow adjustment for the generally higher mortality levels associated with urban residence[17,18]. A three-fold classification was derived: urban, intermediate and rural representing settlements of >75,000 people, 2500-75000 and < 2500 people respectively.

### Religious affiliation

The assignment of religious affiliation was determined by the responses to two questions in the 2001 Census. The first asked whether the respondent regarded themselves as belonging to any particular religion: if the answer was 'yes' the second question asked them to specify the religion. In the classic Durkheim analyses and in the more recent Swiss study three groups of religious affiliation were identified: Roman Catholics, Protestants and those stating no affiliation. The

Catholic and not affiliated groups were retained in the current analysis but, based on the previous analyses of social surveys (below) and of mortality risk according to religious affiliation in Northern Ireland[19], the Protestant group was divided into two: a larger group comprising the main protestant denominations such as the Presbyterian Church in Ireland, the Church of Ireland, and the Methodist Church in Ireland; and a smaller group of 'conservative Christians' comprising the more fundamentalist groups such as Free Presbyterians, Baptists and Brethren. A small group of people classed as 'Other faiths' (0.3% of the selected cohort) were excluded from the analysis on the basis of size.

**Outcome**

The outcome for analysis was risk of mortality from suicide during the 8.7 years from the 2001 Census to the end of 2009. In keeping with established practice both definite suicides and deaths of undetermined intent were combined to define suicide (ICD10 codes: X60-X84, Y10-Y34, Y87.0). This reduced the possible effects of misclassification, though sensitivity analyses were also undertaken using just definite suicides, to ensure that any relationship with religious groups were not due to a classification bias.

**Statistical analysis**

Age specific rates were used to estimate the absolute differences between the selected religious groups. Cox proportional hazards models were fitted to explore the socio-demographic characteristics, including religious affiliation, and measures of socio-economic status influencing subsequent mortality risk. Proportional hazards assumptions were graphically checked for each variable. Likelihood ratio statistics were used to test for differences in hazard ratios between categories and trends across categories. Tests for interaction were undertaken to determine if age or sex modified the relationship between denomination and mortality risk. All analyses were carried out using STATA 10.0 (Statcorps, 2009).

**Results**

Table 1 shows the distribution and socio-demographic characteristics of the main denominational groups and of those with no religious affiliation at the 2001 Census. Protestants comprised the largest group (41.6%), followed by Roman Catholics (39.5%), conservative Christian group (6.3%), with 12.6% stating no stated religious affiliation. This latter group had a younger profile than the population as a whole and consequently a higher proportion who were never married, though they also had a greater proportion who were separated or divorced. They also tended to be better educated, in a managerial or professional occupation and to have access to private transport. Almost half of this group (49.7%) lived in urban areas, which is ten percentage points higher than the population average, and is probably explains the higher levels of private renting. Catholics also had a relatively young profile but tended to be less affluent than the other groups with higher levels of unemployment and social renting.

Table 1 about here

A total of 52,617 deaths occurred to the cohort during the 8.7 years of follow-up, of which 1,119 were due to suicide or of undetermined intent. Overall, 74.4% of suicides were to males and 64.8% were to people aged less than forty-five years old. Table 2 shows the well-recognised relationship between demographic characteristics and socio-economic status and risk of suicide. Marriage is protective and living alone increases the risk (fully adjusted HR=1.23: 95%CI=1.02, 1.49). There were strong socio-economic gradients present with each of the each of the indicators making an independent contribution to risk. Being unemployed was associated with an increased risk but with wide confidence intervals (HR=1.26: 95%CIs=0.96, 1.66). Those with a permanent sickness were more than three times as likely as an employed person to complete suicide (HR 3.14 95%CIs 2.64, 3.74). There was no variation by the urban/rural nature of residence. The models, adjusted for age and sex, show that suicide was about 20% less likely amongst Protestants than in Catholics though after adjustment for socio-economic status this difference disappeared (HR=0.94: 95%CIs=0.83, 1.08). The risk for those with no religious

affiliation was the same as that for Catholics and this was not significantly altered by adjustment for other socio-demographic factors. The lowest risk of suicide was amongst those in the Conservative Christian group, who in the fully adjusted models were about 30% less likely to complete suicide (HR=0.71: 95%CIs=0.52, 0.97). Sensitivity analysis using only definite suicides as endpoint revealed a similar picture (full results available from authors), with again, no significant difference between Catholics and Protestants or those with no religion, but a lower risk amongst the Conservative Christians compared to Catholics (HR=0.72: 95%CIs=0.52, 0.99).

Table 2 about here

Further analysis showed that the relationship between religious affiliation and mortality risk varied by age (Chi-sq 25.2; P = 0.047) but not by sex (Chi-sq 3.72; P = 0.294) so the analyses were split using three age-bands representing younger adults (aged 16-34), middle age (35-54 years) and older adults (55-74 years). Table 3 shows the absolute differences in suicide rates for specific age-groups: for those 16-34 and 35-54 Catholics record higher rates than either of the Protestant groups, though (marginally) the lowest rates in the eldest age group; the conservative Christian group recorded the lowest rates in the youngest age groups (9.2 and 6.5 compared with 15.1 and 16.7 respectively), though marginally higher rates in the oldest group; and finally, with the exception of the youngest age group the mainstream Protestant groups record rates similar to Catholics.

Table 3 about here

Table 4 shows the Hazard Ratios from fully adjusted Cox proportional hazards models stratified by age group. These mirror the results of table 3: at younger ages suicide risk is highest for Catholics; for Protestants and conservative Christians it is about 25% lower. The risk for those

without a religious affiliation is a little lower than that of Catholics but not significantly so. Between the ages of 35 and 54, there is no appreciable difference between Catholics, Protestants and those with no religion, but the risk for Conservative Christians is 50% lower than that of Catholics (HR=0.50: 95%CIs=0.29, 0.85). At older ages, all other groups appear to have a higher suicide risk than Catholics, though none are significant at the 5% level. Further analysis comparing Catholics and non-Catholics confirms that this is not a case of small numbers (HR=1.26: 95%CIs=0.91, 1.75).

Table 4 about here

**Discussion:**

In this study suicide risk is generally the same for those with and without a professed religious affiliation. Within the denomination groups tested the risk for younger Catholics is about 20% higher than for mainstream Protestant denominations; and only those belonging to the more Conservative Christian groups record lower relative risks (at least up to the age of fifty-five). No differences between men and women were recorded, and the findings are not due to coding differences at the death registration as the same pattern was found for definitive suicide (where suicide intent was clear). This implies that the relationship between religious affiliation and suicide risk established by Durkheim in the 19th century, along with his explanatory mechanisms, may not pertain in Northern Ireland. Specifically, in this study a particular religious affiliation does not confer any additional resilience to either Catholics or mainstream Protestants - risks associated with these groups are similar to those professing no religious affiliation, and the lower suicide risk associated with the more conservative Christians is unlikely to be due to church attendance per se a their levels of attendance are generally lower than those of Catholics, although it was not possible to the directly measure the relationship between church attendance and suicide risk in this study.

The absence of a protective effect of religious affiliation in more recent times may be due to an increasing difference between affiliation and non-organisational aspects of religiosity, aligned with a shift in the age-distribution of suicide from older to younger people. When Durkheim was writing, the suicide risk in most of the countries studied increased progressively with age and we can be reasonably certain that there was a close correspondence between affiliation and church attendance, religious observance and belief. However, dramatically declining church attendance rates and the slower decline in affiliation rates[22] indicates that this correspondence has weakened in modern societies. That this change has been more evident in younger people[23] is important given the marked shift in suicide mortality from old to younger ages in recent decades[24-26]. At the same time, the rise in 'individualised' religiosity[27] has blurred the differences in religiosity between those affiliated and those non-affiliated. There are now an increasing numbers of people who, while having rejected institutionalised religion, have not

rejected belief in a deity - a philosophy of 'believing without belonging'[28,29]. Analysis of social surveys contemporaneous with the 2001 Census shows that about 36% of those in Northern Ireland who do not belong to an organised religion 'know' or 'feel' that God exists[21]. Although this should narrow the distinction between affiliated and non-affiliated cohort members, there is some evidence that people with a spiritual dimension to life but without a religious framework may be vulnerable to poor mental health[30].

Why Conservative Christians should have a lower suicide risk is less clear. The results of the present study would argue against Durkheim's mechanism of church attendance, as contemporaneous social surveys suggest that church attendance is generally higher amongst Catholics. However, it is possible that other church-related activities or the less organisational aspects of religion are important. However, it is also possible that the effects of religion may be more indirect and operate through reduction of other social and behavioural factors that are known to increase the risk of suicide. More recently, McCullough and Willoughby have proposed that it is religion's influence on self-control (known to be associated with greater satisfaction and success across many facets in life) that provide the underlying mechanisms explaining its wide array of positive individual and societal effects[31]. For example, it is recognised that religion can influence lifestyle through endorsement of health promoting behaviours and disapproval of excess risk-taking, and religious involvement is associated with less delinquency, alcohol abuse and drug taking[30,32,33]. Religious youths demonstrate greater commitment to studies and higher educational attainment [34] and married religious people record higher levels of marital satisfaction and lower levels of divorce [35]. The conservative Christians in Northern Ireland demonstrate many of these attributes and previous studies here have also demonstrated significantly lower mortality risk from either tobacco or alcohol-related causes[36], so their lower risk-taking behaviour could explain the lower suicide risk amongst younger and middle aged adults.

**Comparison with other studies**

The only other recent census-based study to examine the relationship between religious affiliation and suicide is from Switzerland: this examined suicide risk over six years of follow-up amongst citizens enumerated at the 2000 census. They reported findings in line with Durkheim (suicide risk was 27% lower in Protestants and 49% lower in Catholics compared to those with no religious affiliation), though the protective effects of religion were more evident in older people and stronger for women than men[4]. Why the studies have produced very different results is unclear, though it should be noted that the overall rate was higher in Switzerland than in Northern Ireland and that risk increased with age, being highest at the 85-94 age group. However, we would suggest that Switzerland is the anomaly, given its more secularised society and very low levels of church attendance [10]. Indeed, other Swiss researchers have questioned whether religious affiliation still reflects belonging to a church, and suggest that it better understood in terms of customs and traditions [12]. If, as the current study suggests, religious affiliation is reflecting other facets of society that are more fundamentally linked to suicide risk this would be in keeping with the meta-analysis of 147 studies by Smith et al which found only a very weak negative correlation between religious belief and depression [37].

**Strengths and Limitations**

This study has significant strengths and limitations. Its strengths are that it relates to the entire population rather than selected subgroups and that cause of death is derived from validated records. Religious affiliation is measured at the outset of the study and goes some way to obviating the reverse causation that others have proposed as an alternative explanation for the associations between religiosity and poor health outcomes [38]. Although the census allows good adjustment for most of the individual, household and socio-economic factors that have been associated with suicide risk, the length of follow up may raise concerns about the contemporaneousness of some of the characteristics. The main caveat however, relates to the label of affiliation and its relationship with other facets of religiosity that were not available in this census-based study. An overview of studies in this area demonstrates a general trade-off between the breadth of population coverage and the depth of questions asked. At one extreme are census-based studies that provide population-wide coverage and are of sufficient size to

generate robust estimates for risk of relatively rare events such as suicide, but the pressure and costs of space on census forms allows little depth to subject area beyond religious affiliation. At the other extreme are dedicated studies that enable a more detailed exploration of the importance and meaning of religion in a person's life but they often raise issues of representativeness and are rarely of sufficient size to study completed suicide as an endpoint. By relating the reported attendance rates and other attributes of belief from contemporaneous social studies to the religious affiliation findings in census, this study goes further than others in this area to bridge these extremes.

In conclusion, this large population based record linkage study in Northern Ireland, where there are high levels of professed religious affiliation and church attendance, shows that those with no religious affiliation have a risk of suicide that is no higher than that of Catholics or those belonging to mainstream Protestants faiths, and that amongst younger adults the risk is highest for Catholics. These findings run counter to the perceived relationship between religion and suicide but may be related to the increasing dissociation between religious affiliation and religious salience, especially amongst younger adults where suicide rates are highest.

**Acknowledgements**

The help provided by the staff of the Northern Ireland Mortality Study (NIMS) and the NILS Research Support Unit is acknowledged. The NIMS is funded by the Health and Social Care Research and Development Division of the Public Health Agency (HSC R&D Division) and NISRA. The NILS-RSU is funded by the ESRC and the Northern Ireland Government. The authors alone are responsible for the interpretation of the data and any views or opinions presented are solely those of the author and do not necessarily represent those of NISRA/NILS.

**References:**


1. Durkeim E: *Suicide: A Study in Sociology* (1897). Translated by Spaulding JA, Simpson G. New York, Free Press, 1951
2. Stack S, Lester D: The effect of religion on suicide ideation. *Soc Psychiatry Psychiatr Epidemiol* 1991; **26**:168–170
3. Neeleman J, Halpern D, Leon D, Lewis G: Tolerance of suicide, religion, and suicide rates: an ecological and individual study in 19 Western countries. *Psychol Med* 1997; **27**:1165–1171
4. Spoerri A, Zwahlen M, Bopp M, Gutzwiller F, Egger M. Religion and assisted and non-assisted suicide in Switzerland: National Cohort Study. *Int. J. Epidemiol*. 2010; 39: 1486-1494
5. Gearing R, Lizardi D. Religion and Suicide. *J Relig Health* 2009; 48: 332–341
6. Dervic K, Oquendo M, Grunebaum M, Ellis S, Burke A, Mann J. Religious Affiliation and Suicide Attempt *Am J Psychiatry* 2004 161: 2303-2308
7. Maselko J, Hughes C, Cheyney R. Religious social capital: Its measurement and utility in the study of the social determinants of health. *Soc Sci Med* 2011; 73: 759-767.
8. Norris P, Inglehart R. *Sacred and Secular. Religion and Politics. Worldwide*. New York, NY: Cambridge University Press. 2004
9. Voye´ L. Secularization in a Context of Advanced Modernity. *Sociology Religion* 1999; 60: 275–288.
10. Bovay C. *L'e´volution de l'appartenance religieuse et confessionnelle en Suisse (The Evolution of Religious and Confessional Affiliation in Switzerland)*. Berne: Office fe´de´ral de la statistique. 2004.
11. Campiche RJ. *Les deux visages de la religion: Fascination et de´senchantement (The Two Faces of Religion: Fascination and Disenchantment)*. Geneve, Switzerland: Labor et Fides. 2004.
12. Nicolet S, Tresch A. Changing religiosity, changing politics? The influence of 'belonging' and 'believing' on political attitudes in Switzerland. *Politics Religion* 2009; 2: 76-99.
13. Brierley P. UK Christian Handbook, Religious Trends No 2, 2000/01. London: Harper Collins 1999
14. O'Reilly D, Rosato M, Johnston F, Catney, G, Brolly M. Cohort description: The Northern Ireland Longitudinal Study (NILS): *Int J Epidemiology* 2012; 41: 634-641
15. Rose D, Pevalin D (eds). *A researcher's guide to the National Statistics Socio-economic classification*. London: Sage publications, 2002.
16. Northern Ireland Statistics and Research Agency. *Report of the inter-departmental urban-rural definition group: Statistical classification and delineation of settlements*. Belfast: Northern Ireland Statistics and Research Agency, 2005
17. O' Reilly G, O'Reilly D, Connolly S, Rosato M. Urban and rural variations in morbidity and mortality in Northern Ireland. *BMC Public Health* 2007, 7:123.
18. Connolly S, O'Reilly D, Rosato M, Cardwell C. Area of residence and alcohol-related mortality risk: A five–year follow-up study. *Addiction* 2011; 106: 84-92
19. O' Reilly D, Rosato M. Religion affiliation and health in Northern Ireland: Beyond Catholic and Protestant. *Soc Sci Med* 2008; 66: 1637-1645.
20. Macourt M. Counting the people of God: the census of the population and the Church of Ireland. Church of Ireland Publishing: Dublin 2008.
21. Brewer J. *Are the any Christians in Northern Ireland? in Social Attitudes in Northern Ireland: The Eighth Report*. Eds Gray A, Lloyd K, Devine P, Robinson G, Heenan D. Pluto Press London: 2002
22. Ashworth J, Farthing I. *Churchgoing in the UK: A research report from Tearfund on church attendance in the UK.* Tearfund: Middlesex 2007
23. Voas D. The Rise and Fall of Fuzzy Fidelity in Europe. *Eur Sociological Rev* 2009; 25: 155-168.

24. Boyle P, Exeter D, Feng Z, Flowerdew R. Suicide gap among young adults in Scotland: population study. *BMJ* 2005; 330: 175–6
25. Gunnell D, Middleton N, Whitley E, Dorling D, Frankel S. Why are suicide rates rising in young men but falling in the elderly? - a time-series analysis of trends in England and Wales 1950-1998. *Soc Sci Med*. 2003; 57: 595-611.
26. Wasserman D, Cheng Q, Jiang G. Global suicide rates among young people aged 15-19. *World Psychiatry*. 2005; 4: 114–120.
27. Pollack D, Pickel G. Religious individualism or secularism? Testing hypotheses of religious change – the case of Eastern and Western Germany. *Br J Sociol* 2007; 58: 603-632.
28. Davie G. *Religion in Britain since 1945: Believing without belonging*. Oxford, UK: Blackwell 1994.
29. Davie G. *Religion in Modern* Europe. Oxford, UK: Oxford University Press, 2000
30. King M, Marston L, McManus S, Brugha T, Meltzer H, Bebbington P. Religion, spirituality and mental health: results from a national study of English Households. *Br J Psych* 2013; 202: 68-73.
31. McCullough M, Willoughby B. Religion, Self-Regulation, and Self-Control: Associations, Explanations, and Implications. *Psychol Bulletin* 2009; 135: 69-93.
32. Baier C, Wright B. If you love me, keep my commandments: A meta-analysis of the effect of religion on crime. *J Res Crime Delinquency* 2001; 38*,* 3-21.
33. Michalak L, Triocki K, Bond J. Religion and alcohol in the US National Alcohol Survey: how important is religion for abstention and drinking? *Drug Alcohol Depend* 2007; 87: 268-80.
34. Jeynes W. H. A meta-analysis of the effects of attending religious schools and religiosity on Black and Hispanic academic achievement. *Educ Urban Society* 2002; 35: 27.49.
35. Mahoney A, Pargament K. I, Tarakeshwar N, Swank A. B. Religion in the home in the 1980s and 1990s: A meta-analytic review and conceptual analysis of links between religion, marriage, and parenting. *J Family Psychol* 2001; 15: 559-596.
36. O' Reilly D, Rosato M. Religion affiliation and health in Northern Ireland: Beyond Catholic and Protestant. *Soc Sci Med* 2008; 66: 1637-1645.
37. Smith TB, McCullough ME. Religiousness and depression: evidence for a main effect and the moderating influence of stressful life events. *Psychol Bull* 2003; 129: 614-36
38. Maselko J, Hayward D, Hanlon A, Buka S, Meador K. Religious service attendance and major depression: A case of reverse causality? *Am J Epidemiol* 2012; 175: 576-583

**Table 1: Demographic, socio-economic and residential characteristics by current religious affiliation: numbers represent percentages of denominational group.**

| | Roman Catholic | Protestant | Conservative Christian | No religion | Total |
|---|---|---|---|---|---|
| **Numbers** | 436,973 | 459,892 | 69,500 | 139,781 | 1,106,146 |
| **Age** | | | | | |
| 16-34 | 41.5 | 31.9 | 35.2 | 41.7 | 37.1 |
| 35-64 | 37.7 | 37.7 | 38.5 | 40.9 | 38.2 |
| 65-74 | 20.8 | 30.4 | 26.4 | 17.5 | 24.7 |
| **%Female** | 52.5 | 52.2 | 53.1 | 45.3 | 51.5 |
| **Marital status** | | | | | |
| Married | 53.8 | 62.9 | 66.6 | 54.6 | 58.5 |
| Never married | 35.6 | 25.4 | 24.6 | 32.5 | 30.3 |
| Sep-Divorced | 6.8 | 6.8 | 5.2 | 10.0 | 7.1 |
| Widowed | 3.8 | 4.9 | 3.6 | 2.9 | 4.1 |
| **Single person households** | | | | | |
| Yes | 8.8 | 11.1 | 9.2 | 14.7 | 10.5 |
| **Academic qualifications** | | | | | |
| Degree-level | 15.5 | 14.0 | 17.8 | 21.2 | 15.7 |
| Intermediate | 42.4 | 41.0 | 44.2 | 45.7 | 42.3 |
| None | 42.1 | 45.1 | 38.0 | 33.2 | 42.0 |
| **Social class** | | | | | |
| Managerial/Prof | 23.1 | 25.5 | 29.9 | 30.0 | 25.4 |
| Intermediate | 9.2 | 12.6 | 12.9 | 11.6 | 11.1 |
| Own account | 9.0 | 8.9 | 9.8 | 7.6 | 8.8 |
| Low Supervisory | 8.1 | 9.7 | 8.1 | 8.8 | 8.9 |
| Routine | 32.8 | 32.9 | 28.9 | 27.7 | 32.0 |
| Never worked | 8.4 | 4.5 | 3.3 | 6.6 | 6.2 |
| Student | 9.4 | 5.9 | 7.0 | 7.7 | 7.6 |
| **Housing tenure** | | | | | |
| Owner | 75.4 | 80.4 | 79.6 | 71.1 | 77.2 |
| Private rent | 6.8 | 5.3 | 9.3 | 11.5 | 6.9 |
| Social rent | 17.8 | 14.3 | 11.2 | 17.4 | 15.9 |
| **Car availability** | | | | | |
| No car | 38.6 | 45.2 | 48.9 | 37.3 | 41.8 |
| One car | 43.3 | 41.1 | 40.9 | 43.5 | 42.3 |
| Two or more | 18.1 | 13.7 | 10.2 | 19.3 | 15.9 |
| **Area of residence** | | | | | |
| Urban | 35.6 | 39.9 | 40.2 | 49.7 | 39.5 |
| Intermediate | 34.4 | 33.3 | 32.5 | 31.5 | 33.4 |
| Rural | 30.0 | 26.9 | 27.3 | 18.8 | 27.1 |

**Table 2: Risk of suicide by religious denomination. Data represents hazard ratios (and 95% confidence intervals)**

| Age | Adjusted age/sex | Model 2 | Fully adjusted |
|---|---|---|---|
| 16-24 | 1.00 | 1.00 | 1.00 |
| 25-34 | 1.07 (0.89, 1.30) | 1.23 (1.00, 1.52) | 0.95 (0.77, 1.19) |
| 35-44 | 1.34 (1.12, 1.60) | 1.67 (1.34, 2.09) | 1.16 (0.92, 1.47) |
| 45-54 | 1.17 (0.97, 1.43) | 1.48 (1.16, 1.88) | 0.93 (0.72, 1.20) |
| 55-64 | 0.84 (0.67, 1.06) | 1.05 (0.80, 1.38) | 0.53 (0.39, 0.71) |
| 65-74 | 0.60 (0.44, 0.80) | 0.70 (0.50, 0.99) | 0.33 (0.21, 0.51) |
| Sex | | | |
| Male | 1.00 | 1.00 | 1.00 |
| Female | 0.33 (0.29, 0.37) | 0.33 (0.28, 0.37) | 0.30 (0.26, 0.35) |
| Religion | | | |
| Roman Catholic | 1.00 | 1.00 | 1.00 |
| Protestant | 0.82 (0.72, 0.93) | 0.83 (0.73, 0.95) | 0.94 (0.83, 1.08) |
| conservative Christian | 0.57 (0.42, 0.78) | 0.60 (0.44, 0.82) | 0.71 (0.52, 0.97) |
| No religion | 0.98 (0.82, 1.16) | 0.91 (0.77, 1.09) | 1.00 (0.84, 1.20) |
| Marital status | | | |
| Married | | 1.00 | 1.00 |
| Never | | 1.64 (1.38, 1.96) | 1.38 (1.16, 1.64) |
| Sep/divorced | | 2.07 (1.67, 2.56) | 1.41 (1.14, 1.76) |
| Widowed | | 1.38 (0.92, 2.07) | 1.16 (0.78, 1.73) |
| Household composition | | | |
| Multiple | | 1.00 | 1.00 |
| Single person | | 1.59 (1.32, 1.91) | 1.23 (1.02, 1.49) |
| Educational attainment | | | |
| Degree-level | | | 1.00 |
| Intermediate | | | 1.57 (1.23, 2.00) |
| None | | | 1.53 (1.17, 1.98) |
| Economic activity | | | |
| Employed | | | 1.00 |
| Unemployed | | | 1.26 (0.96, 1.66) |
| Student | | | 1.14 (0.28, 4.62) |
| Retired | | | 1.81 (1.26, 2.59) |
| Homemaker | | | 1.60 (1.22, 2.09) |
| Permanently sick | | | 3.14 (2.64, 3.74) |
| Other | | | 2.02 (1.58, 2.59) |
| Social class | | | |
| Managerial/professional | | | 1.00 |
| Intermediate | | | 1.23 (0.95, 1.60) |
| Own account | | | 1.43 (1.12, 1.82) |

| | |
|---|---|
| Lower supervisory | 1.25 (0.98, 1.59) |
| Routine | 1.27 (1.04, 1.55) |
| No work | 1.15 (0.87, 1.52) |
| Student | 0.51 (0.12, 2.16) |
| Housing tenure | |
| Owner | 1.00 |
| Private rent | 1.21 (1.03, 1.43) |
| Social rent | 1.52 (1.24, 1.87) |
| Car ownership | |
| Two+ cars | 1.00 |
| One car | 1.18 (1.01, 1.38) |
| No car | 1.63 (1.33, 2.00) |
| Area of residence | |
| Urban | 1.00 |
| Intermediate | 1.07 (0.93, 1.22) |
| Rural | 1.07 (0.91, 1.26) |

**Table 3: Age-specific suicide rates (and 95%CIs) per 100,000 population, by religious affiliation**

| | Age group (and number of suicides) | | |
|---|---|---|---|
| | **16-34 (423)** | **35-54 (518)** | **55-74 (178)** |
| **Catholic** | 15.1 (13.2, 17.2) | 16.7 (14.6, 19.0) | 7.4 ( 5.7, 9.7) |
| **Protestant** | 10.1 ( 8.5, 12.1) | 14.8 (12.9, 17.0) | 8.0 ( 6.5, 9.8) |
| **conservative Christian** | 9.2 ( 5.8, 14.6) | 6.5 ( 3.9, 11.1) | 8.2 ( 4.6, 14.4) |
| **No religion** | 14.4 (11.3, 18.3) | 17.3 (13.9, 21.5) | 11.8 ( 7.8, 17.7) |

**Table 4: Risk of suicide according to denominational affiliation stratified according to age; data represent hazards ratios (95% confidence intervals) from separate models fully adjusted for all covariates in Table 2.**

| | Age-group | | |
|---|---|---|---|
| | **16-34** | **35-54** | **55-74** |
| **Roman Catholic** | 1.00 | 1.00 | 1.00 |
| **Protestant** | 0.73 (0.58, 0.92) | 1.04 (0.86, 1.26) | 1.22 (0.87, 1.73) |
| **Conservative Christian** | 0.75 (0.46, 1.21) | 0.50 (0.29, 0.85) | 1.31 (0.90, 2.46) |
| **No religion** | 0.88 (0.67, 1.17) | 1.01 (0.78, 1.32) | 1.41 (0.86, 2.32) |